CLAIMS

What is claimed is:

1-16 (Cancelled)

17. (Previously Presented) An ink-jet transfer system, comprising:

a) a carrier material;

b) an adhesive layer applied onto said carrier material, said adhesive layer including dispersed spherical polyester particles of a granular size of less than 30 μm;

c) a white background layer applied onto the adhesive layer; said white background layer including an elastic plastic and white inorganic pigment, wherein said elastic plastic and white inorganic pigment do not melt at a temperature up to about 220°C; and

d) an ink-receiving layer applied onto said white background.

18. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the ink-receiving layer comprises a binder, whereby molecules of the binder are capable of forming chemical bonds to ink dyestuff molecules.

19. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the ink-receiving layer comprises a pigment, whereby molecules of the pigment are capable of forming chemical bonds to ink dyestuff molecules.

20. (Previously Presented) The ink-jet transfer system of Claim 18, wherein the dyestuff molecules are azo-dyestuff molecules.

21. (Previously Presented) The ink-jet transfer system of Claim 19, wherein the dyestuff molecules are azo-dyestuff molecules.

22. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the ink-receiving layer comprises a polyimide binder.

23. (Previously Presented) The ink-jet transfer system of Claim 19, wherein the ink-receiving layer comprises a polyimide pigment.

24. (Previously Presented) The ink-jet transfer system of Claim 23, wherein the ink-receiving layer comprises a polyamide pigment having a surface area of at least about 15 m^2/g and a mean granular size of about 2 to 25 μm and a polyimide binder.

25. (Previously Presented) The ink-jet transfer system of Claim 24, wherein the ratio between the pigment and the binder is between about 5:1 and about 1:1

26. (Previously Presented) The ink-jet transfer system of Claim 25, wherein the ratio between the pigment and the binder is about 2.4:1.

27. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the elastic plastics of the white background layer are selected from the group consisting of polyurethanes, polyacrylates and polyalkylenes.

28. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the white inorganic pigments in the white background layer are selected from the group consisting of BaSO4, ZnS, TiO2, ZnO, and SbO.

29. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the adhesive layer is a hot-melt layer.

30. (Previously Presented) The ink-jet transfer system of Claim 29, wherein the hot-melt layer comprises a mixture of an ethylene acrylic acid copolymer and polyester particles of a granular size of less than or equal to 20 μm.

31. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the carrier layer comprises a heat-resistant separating paper.

32. (Previously Presented) The ink-jet transfer system of Claim 31, wherein the heat-resistant separating paper is silicon paper.

33. (Previously Presented) The ink-jet transfer system of Claim 17, wherein the ink-receiving layer further comprises a dispersing additive for the pigment.

34. (Previously Presented) A method for the preparation of an ink-jet transfer system, comprising the steps of:

a) providing a carrier material;

b) applying an adhesive layer including dispersed spherical polyester particles of a granular size of less than 30 μm;

c) applying a white background layer having an elastic plastic and white inorganic pigment, wherein said elastic plastic and white pigment do not melt at a temperature up to about 220°C;

d) applying an ink-receiving layer onto the white background layer; and

e) drying the ink-jet transfer system.

35. (Previously Presented) The method of Claim 34, wherein the step of applying an ink-receiving layer is applying two ink-receiving layers.

36. (Previously Presented) The method of Claim 34, further comprising the steps of:
printing a graphic representation by a computer via a printer onto the ink-receiving layer;
hot iron pressing the ink-receiving layer onto a textile substrate; and
removing the carrier material.

37. (New) An ink-jet transfer system, characterized in that it comprises:

a) a carrier material;

b) an adhesive layer being applied onto said carrier material;

c) a white background layer being applied on the adhesive layer consisting of elastic plastics which are non-fusible at temperatures up to 220°C and which are filled with white inorganic pigments; and

d) at least one ink-receiving layer.

38. (New) The ink-jet transfer system according to claim 37 wherein the adhesive layer is a hot melt adhesive layer.

39. (New) The ink-jet transfer system according to claim 38, wherein

a) said carrier material comprises a silicon paper;

b) an adhesive in said hot melt adhesive layer is selected from the group of ethylene acrylic acid copolymer, polyurethane dispersion, polyamide, polyethylene and mixtures thereof;

c) said elastic plastics of said white background layer are selected from the group consisting of polyurethanes, polyacrylates, polyakylenes and latex and said white inorganic pigments are selected from the group comprising $BaSO_4$, ZnS, TiO_2, ZnO, SbO and mixtures thereof; and

d) said at least one ink-receiving layer comprises a binder and a porous polyamide pigment.

40. (New) The ink-jet transfer system according to claim 39, wherein

b) said adhesive in said adhesive hot melt layer is an ethylene acrylic acid copolymer; and

c) said elastic plastic of said white background layer is selected from the group comprising polyurethanes and said white inorganic pigment is TiO_2.

41. (New) Method for printing a dark textile support by use of an ink-jet transfer system comprising the steps of:

1) forming an ink-jet transfer system comprising:

a carrier material comprising a silicon paper;

an adhesive hot melt layer wherein the hot melt is of ethylene acrylic acid copolymer;

a white background layer being applied on the adhesive layer consisting of elastic plastics not fusible up to 220°C and selected from the group comprising

polyurethanes which are filed with white inorganic pigments wherein said white inorganic pigment is TiO_2; and

at least one ink-receiving layer comprising a porous polyamide pigment and a binder;

2) printing on the ink-receiving layer of the ink-jet transfer system a graphic presentation;

3) removing the hot-melt layer, white back ground layer, ink-receiving layer and printed graphic presentation from the silicon paper;

4) placing the hot melt side and white side onto the dark textile substrate with the printed image facing up from the dark textile substrate;

5) placing a paper on the surface of the image transfer system having the printed image;

6) hot iron pressing the paper onto the dark textile substrate; and thereafter

7) the pressing paper is coldly removed after cooling.

42. (New) The method of claim 41 wherein the graphic presentation is printed on the ink-receiving layer with a computer via a printer.

43. (New) The method of claim 42 wherein the printer is an ink-jet printer.

44. (New) The method of claim 41 wherein said graphic presentation is a color presentation.

45. (New) A method for transferring an image to a dark substrate comprising woven, fabric based material or paper:

providing a transfer print comprising:

a carrier material;

an adhesive layer contacting the carrier material; and

an ink-receiving layer that comprises a polymer that includes indicia

wherein the adhesive layer is applied with a white background layer having one or more of titanium oxide or other white pigment or luminescent pigment;

peeling the carrier material from the transfer print;

contacting at least the remaining portions of the transfer print to the dark substrate comprising woven, fabric based material or paper; and

applying heat to the at least the remaining portions of transfer print so that an image including indicia from the ink-receiving layer is transferred from the transfer print to the dark substrate comprising woven, fabric based material or paper

wherein the image comprises a substantially white background or luminescent background and indicia.

46. (New) The method of claim 45 wherein the dark substrate comprising woven, fabric based material or paper is a textile.

47. (New) The method of claim 45 wherein the dark substrate comprising woven, fabric based material or paper is black.

48. (New) The method of claim 45 wherein the ink-receiving layer is situated on the white background layer containing one or more of titanium oxide or other white pigment or luminescent material.

49. (New) The method of claim 45 wherein the polymer of the ink-receiving layer is applied on the white background layer having titanium oxide or other white pigment and indicia and transfers the titanium oxide or other white pigment in a pattern that forms the indicia on the dark substrate.

50. (New) A transfer print, comprising:

a dark substrate comprising woven, fabric based material or carrier material having paper;

an adhesive layer overlaying the carrier material or dark substrate,

wherein the adhesive layer is applied with a white background layer having titanium oxide or other white pigment or luminescent pigment; and

an ink-receiving layer having polymer.

51. (New) The transfer print of claim 50 wherein the ink-receiving layer is situated on the white background layer having titanium oxide or other white pigment.

52. (New) The transfer print of claim 50 wherein the ink-receiving layer comprises polypropylene.

53. (New) The transfer print of claim 50 wherein the ink-receiving layer comprises polyester or polyamide or a mixture of polyester and polyamide.

54. (New) A kit comprising the transfer print of claim 50 and a dark textile.

55. (New) The kit of claim 54 wherein the dark textile is an article of clothing.

56. (New) The kit of claim 55 wherein the article of clothing is a T-shirt.

57. (New) The transfer print of claim 50 wherein the ink-receiving layer is a polyamide.

58. (New) The transfer print of claim 50 wherein the ink-receiving layer comprises LDPE, EAA, EVA, MAEA, nylon or mixtures of these polymers or polyamide.

59. (New) A method for making a transfer print, comprising:

providing an adhesive layer;

overlaying the adhesive layer with a polymer member, the polymer member comprising an ink-receiving layer effective for receiving imparted image; and

combining a portion of the polymer member with a white background layer having titanium oxide or other white pigment, thereby providing an opaque background for the imparted image.

60. (New) The method of claim 59 wherein the ink-receiving layer is effective for receiving ink jet imparted image.

61. (New) The method of claim 59 wherein the opaque background comprises a substantially white or luminescent background.

62. (New) A method for transferring an image to a dark substrate comprising woven, fabric based material, or paper comprising:

providing a transfer print comprising (i)an adhesive layer, (ii) an ink-receiving layer that comprises a polymer configured to receive an image, wherein one or more of the ink-receiving layer and the adhesive layer comprise a white background layer having titanium oxide or other white pigment or luminescent pigment;

contacting one or more portions of the transfer print to the dark substrate;

applying heat to one or more portions of the transfer print so that received image and the white background layer, provided by the pigment, are concurrently transferred from a portion of the transfer print to the dark substrate.

63. (New) The method of claim 62 wherein the dark substrate is a textile.

64. (New) The method of claim 62 wherein the dark substrate is black.

65. (New) The method of claim 62 wherein the ink-receiving layer is impregnated with the white background layer having one or more of a titanium oxide or other white pigment or luminescent material.

66. (New) The method of claim 62 wherein the polymer of the ink-receiving layer encapsulates the white background layer and receiving image, and transfers the white background layer and the receiving image in a pattern that forms an image on the dark substrate.

67. (New) An article for imparting an image to a substrate comprising:

an adhesive layer;

one or more layers overlaying the adhesive layer, comprising an ink-receiving layer and a polymer that includes a white background layer having titanium oxide or other white pigment, wherein the ink-receiving layer is effective for receiving the image; wherein the adhesive layer is

effective for receiving image, and wherein the white background layer provides an opaque background for received image.

68. (New) The article of claim 67 wherein the ink-receiving layer comprises polypropylene.

69. (New) The article of claim 67 wherein the ink-receiving layer comprises polyester or polyamide or a mixture of polyester and polyamide.

70. (New) The article of claim 67 wherein the substrate is an article of clothing.

71. (New) The article of claim 67 wherein the polymer of the ink-receiving layer is a polyamide.

72. (New) The article of claim 67 wherein the polymer comprises LDPE, EAA, EVA, MAEA, or nylon, mixtures of these polymers, or polyamide.

73. (New) A method for making a transfer print, comprising:

providing a carrier material

contacting the carrier material with an adhesive layer;

contacting the adhesive layer with an ink-receptive polymer that includes a white background layer having titanium oxide or other white pigment, wherein the ink receptive polymer is effective for receiving an image and providing an opaque background for the image; and

wherein the carrier material, when peeled away from the ink-receptive polymer, or a cover layer is effective for covering the image received by the ink-receptive polymer prior to an application of heat.

74. (New) The method of claim 73 wherein the carrier material or the cover layer is effective for transferring heat from a heat source to the ink-receptive polymer when covering the ink-receptive polymer.

75. (New) The method of claim 73 wherein, once contacted, at least a portion of the adhesive layer is peelable from the ink-receptive layer with the carrier material.

76. (New) The method of claim 73, further comprising applying an image including received image and the opaque background to the ink receptive polymer.

77. (New) The method of claim 76, wherein the received image includes ink from an ink pen, an ink jet printer, or a laser printer.

78. (New) The article of claim 67, further comprising a dark substrate comprising textiles or paper based material for receiving the image including received image and the opaque background.

79. (New) The article of claim 67, further wherein the ink-receiving layer comprises an image.

80. (New) The method of claim 59, further comprising combining a portion of the adhesive layer with a white background layer having a titanium oxide or other white pigment.

81. (New) The method of claim 59, further comprising providing a carrier material underlaying the adhesive layer.

82. (New) The method of claim 81, wherein the carrier material and at least a portion of the adhesive layer, when peeled away from the polymer member, or a cover layer is effective for covering the imparted image on the ink receiving layer and for transferring heat from a heat source to the polymer member.

83. (New) The method of claim 59, wherein overlaying the adhesive layer with a polymer member includes overlaying the adhesive layer with at least one ink-receiving layer configured

to receive imparted image, and one or both of an EAA resin or a white background layer configured to provide the opaque background.

84. (New) The method of claim 62, wherein providing the transfer print further comprises a carrier material.

85. (New) The method of claim 84, further comprising peeling at least a portion of the adhesive layer and the carrier material away from the ink-receiving layer.

86. (New) The method of claim 85, further comprising positioning the peeled adhesive layer and the carrier material, or a cover layer, over the ink-receiving layer.

87. (New) The method of claim 86, wherein applying heat to the one or more portions of the transfer print includes applying heat to one of the peeled adhesive layers and the carrier material or the cover layer, and the ink-receiving layer.

88. (New) The article of claim 67, further comprising a carrier material underlaying the adhesive layer.

89. (New) The article of claim 88, wherein the carrier material and at least a portion of the adhesive layer, when peeled away from the polymer and the ink-receptive layer, or a cover layer is effective for covering received image.

90. (New) The method of claim 73, wherein the carrier material is peeled away from the ink-receptive polymer along a portion of the adhesive layer.

91. (New) A method for transferring an image to a textile, comprising:

obtaining a (i) transfer print comprising (ii) an ink receiving layer; (iii) an adhesive layer having an EAA resin, and (iv) a carrier material having silicone;

peeling the carrier material having silicone from the adhesive layer containing an EAA resin and ink receiving layer;

applying at least the non-peeled portions of the transfer print to the textile so that the adhesive layer having EAA resin contacts the textile;

applying one of the peeled carrier material or a cover layer over at least the ink-receiving layer and the adhesive layer having EAA resin; and

applying heat to one of the peeled carrier material having silicone or the cover layer, the ink-receiving layer, the adhesive layer having an EAA resin, and the textile.

92. (New) A transfer print, comprising:

an ink receiving layer;

an adhesive layer having an EAA resin or polymer having a melt point of about 20 °C to about 300°C contacting the ink-receiving layer;

the adhesive layer having an EAA resin or polymer including one or more pigments providing an opaque background for an image received at least by the ink receiving layer; and

a carrier material having silicone; and

wherein the carrier material is separable from the ink-receiving layer and the adhesive layer having an EAA resin or polymer.

93. (New) A method for enabling transfer of an image to a dark substrate or paper, the method comprising:

providing a transfer print comprising

a carrier material,

and an ink-receiving layer comprising at least one polymer and an ink-receptive coating,

wherein the carrier material is peelable from the ink-receiving layer and positionable over the ink-receiving layer;

wherein the ink-receiving layer is contactable to the dark substrate such that imparted image face away from the dark substrate;

wherein heat is applicable to the carrier material and the ink-receiving layer so that imparted image is transferable to the dark substrate.

94. (New) The method of claim 93, further comprising providing a cover layer positionable over the ink-receiving layer, in lieu of the carrier material, prior to the application of heat.

95. (New) A method for making a transfer print, comprising:

obtaining a carrier material;

overlaying the carrier material with one or more polymers;

combining at least one of the one or more polymers with a white background layer comprising a titanium oxide or other white or luminescent pigment, thereby forming an opaque background;

overlaying the one or more polymers with an ink receiving layer;

wherein the carrier material, when peeled from the one or more polymers and the ink-receiving layer, or a cover layer is effective for covering an image comprising the image receivable by the ink-receiving layer and the opaque background; and

for transferring heat from a heat source to at least the ink-receiving layer and the one or more polymers.

96. (New) A method for enabling transfer of an image to a dark substrate comprising textile or paper, the method comprising:

providing a transfer print comprising

a carrier material,

an adhesive layer having resin and an ink-receiving layer configured to receive an image, wherein the carrier material is contactable to the adhesive layer having resin;

wherein the carrier material is peelable from the adhesive layer having resin and the ink-receiving layer and positionable over the adhesive layer having resin and the ink-receiving layer;

wherein the adhesive layer having resin is contactable to the dark substrate, such that receiving image face away from the dark substrate; and

wherein heat is applicable to the carrier material, the ink-receiving layer, and the adhesive layer having resin so that the image is transferable to the dark substrate.

97. (New) A method for making a transfer print, comprising:
obtaining a carrier material;

overlaying the carrier material with a polymer;

overlaying or underlaying the carrier material having a polymer with an adhesive layer having a resin;

combining at least one of carrier material with the polymer or the adhesive layer having resin with a white background layer having titanium oxide or other white pigment, thereby forming an opaque background; and

overlaying the carrier material having a polymer with the adhesive layer having a resin;

wherein the carrier material, when peeled away from the polymer and the adhesive layer having the resin, or a cover layer is effective for covering an image receivable by the ink-receiving layer and the opaque background and for transferring heat from a heat source to at least the ink-receiving layer, the adhesive layer having resin, and the carrier material having the polymer.

98. (New) The method of claim 91, further comprising imparting image to the ink receiving layer using at least one of a copying or printing process.

99. (New) The method of claim 98, wherein one or both of the ink receiving layer or the adhesive layer having EAA resin includes a white background layer having titanium oxide or other white or luminescent pigment providing an opaque background for imparted image.

100. (New) The method of claim 99, wherein applying at least the non-peeled portions of the transfer print to the textile includes simultaneously applying an image comprising imparted image and the opaque background to the textile.

101. (New) The method of claim 91, wherein the transfer print further comprises a white background layer disposed between the ink receiving layer and the adhesive layer having EAA resin or between the adhesive layer having EAA resin and the carrier material having silicone.

102. (New) The method of claim 93, wherein the ink-receiving layer comprises a white background layer having a white or luminescent pigment that provides an opaque background for imparted image.

103. (New) The method of claim 102, wherein an adhesive layer having an EAA polymer comprises a white background layer having a white or luminescent pigment and provides the opaque background for imparted image.

104. (New) The method of claim 102, wherein a polymeric white layer of the ink-receiving layer comprises the white or luminescent pigment and provides the opaque background for imparted image.

105. (New) The method of claim 102, wherein the ink receptive coating of the ink-receiving layer comprises the white or luminescent pigment and provides the opaque background for imparted image.

106. (New) The method of claim 95, wherein overlaying the carrier material with one or more polymers includes overlaying the carrier material with at least one of an acrylic, EAA, SBR, EVA, PVOH, polyurethane, MEAA, polyamide, PVP, EAA, acrylonitrile, butadiene, or styrene material.

107. (New) The method of claim 95, wherein overlaying the carrier material with one or more polymers includes overlaying the carrier material with a polymeric white background layer and an adhesive layer having EAA resin.

108. (New) The method of claim 96, further comprising providing a cover layer positionable over the ink-receiving layer and the adhesive layer having resin, in lieu of the carrier material, prior to the application of heat.

109. (New) The method of claim 96, wherein the ink-receiving layer includes at least one of low density polyethylene, ethylene acid, or nylon.

110. (New) The method of claim 97, wherein the ink receiving layer includes a melt temperature of about 20°C to about 225°C.

111. (New) The method of claim 97, wherein the polymer comprises a white background layer and the adhesive layer having resin includes EAA.